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INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

S-E-C-R-E-T

50X1-HUM

COUNTRY USSR (Lithuanian SSR)

REPORT

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Introduction

1. In mid-1957 Electronic Instruments Factory No. 555 in Vilnyus and its Special Design Bureau (OKB) were subordinate to the Ministry of the Aircraft Industry (MAP).[1] There was talk of a projected transfer of Factory 555 and the OKB from MAP to the Lithuanian Sovnarkhoz, and also a possible transfer of the OKB from Vilnyus to the interior of the USSR because it was too close to the border. The building which housed the OKB was "L"-shaped and was three stories high. The OKB occupied part of the wing facing ulitsa Montvilo (formerly Rydza Smiglego). The first floor of this wing was occupied by the mechanical department of Factory 555. The Experimental Laboratory of OKB and the central laboratory of Factory 555 were accommodated on the second floor. The third floor was occupied entirely by the OKB. A sketch and legend of the third floor will be found on page 14. The wing facing ulitsa Mindaugenis was occupied by Factory 555.

2. Factory 555 employed about 2,000 persons; however, in times of international tension, such as the Korean War, the number employed increased to about 2,500. Other plants which manufactured electronic equipment, similar to Factory 555 and also subordinate to the MAP, were in Gorkiy, Leningrad, Moscow, Kamensk, Uralskiy, Kiev, and Lvov. Designations and details of these plants were not known.

3. The OKB in Vilnyus was regarded as one of the best of its kind in the USSR. It was capable of supplying models for three factories. Most of the officers who visited the Vilnyus OKB belonged either to the Air Force or to the Navy 50X1-HUM and held the rank of lieutenant colonel or colonel. Among the frequent visitors to OKB was a professor from the Academy of Sciences in Moscow. He was a Russian electronics specialist

Another visitor to OKB was (fnu) Gordon who worked at Scientific Research Institute (NII) No. 17. Gordon gave an unclassified lecture at the OKB on transistors.

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4. In addition to the OKB in Vilnyus the following OKBs were known to exist:

   a. OKB, Leningrad: On the "secret" list of the OKB was a 60 mc, 3 microvolt IF amplifier which was needed by Laboratory No. 3 of the Vilnyus OKB.

   b. OKB, Moscow: During 1953 this OKB commissioned the development of a pulse generator at Laboratory No. 2 of the Vilnyus OKB; the order was urgent.

   c. OKB, Kazan.

   d. OKB, Novosibirsk.

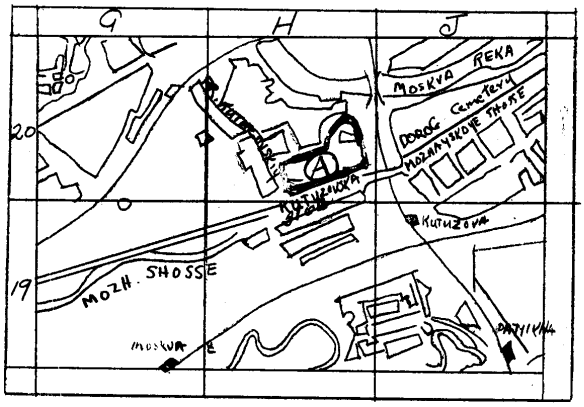
   e. OKB, Ryazan.

   f. OKB, Kiev.

5. Research institutes and OKBs differed in that the former were responsible for providing new ideas, whereas the OKBs were required to develop these ideas to the prototype stage prior to industrial production. During the course of time, this concept underwent a change resulting in the research institutes themselves developing prototypes for industrial plants and the OKBs, in addition to developing prototypes, dealing with theoretical research. Electronics research institutes of MAP included NII-17 in Moscow, NII-20 in Moscow,[2] and research institutes in Gorkiy and Leningrad (designations unknown).

6. Scientific Research Institute No. 17 in Moscow

   a. This institute was housed in a whitewashed brick building shaped like an inverted "L". One wing had about eight stories and the other wing four. Its location in Moscow is shown below 50X1-HUM



   b. There were no identifying signs on the building. Upon passing the entrance gate, one entered a military guard room. Admittance of an OKB employee to the institute required the following:

      (1) A telegram from MAP or from OKB notifying the institute of the expected visit on a specified date;

      (2) A confirmation (dopusk) issued by Department No. 1 (see para. 11) of the visitor's place of employment certifying his security clearance;

      (3) A confirmation from OKB that their employee had been directed to NII-17; this certificate had to be in the possession of the visitor.

c. When the visitor arrived at the guard room, the sentry telephoned the staff member concerned, who personally came to escort the caller. At the termination of the visit, the staff member signed the visitor's entry permit, stating the time. The visitor was allowed to depart unescorted to the gate where his permit was inspected and a comparison made between the time of the end of the interview and the time of exit.

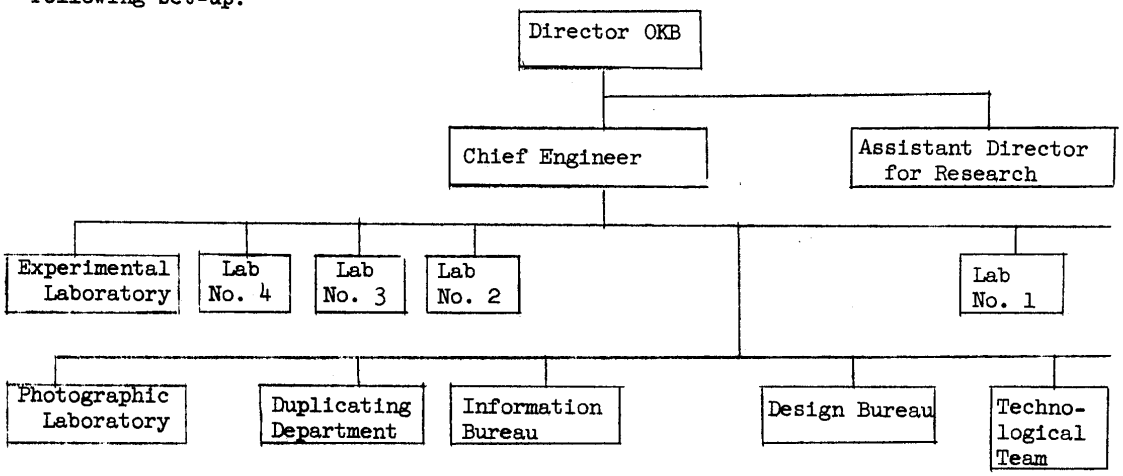
d. In 1956, an OKB employee was sent to NII-17 to obtain tubes of the type 6-ZH-9 (6-Ж-9) which had a high C (possibly transconductance) (30-40 milliamperes to 1 volt). In the same series were the 6-ZH-1 (6-Ж-1) tubes [redacted] The 6-ZH-9 possessed a C of 27 milliamperes to 1 volt; thickness of the primary filament was 0.07 mm (anodic current of the filament was 10 microamperes). Inquiry was also made about tubes 6-P-5 (6-П-5), with a C of 10 (sic), and tubes 6-P-14 (6-П-14) with a C of 15. These tubes were assumed to have been manufactured by the Electronic Tube Plant in Novosibirsk. A branch of NII-17 was located in Novosibirsk. 50X1-HUM

Scientific Research Institute No. 20 in Moscow

7. In 1949, NII-20 was subordinate to the Ministry of Defense. At that time, the large laboratory of the institute, headed by (fnu) Belousov, employed about 90 persons. The exact location of the institute was not known, except that upon arrival at the Paveletskiy Vokzal (railroad station) it was necessary to continue by subway past a junction where one line led to Elektrozavod and the other to Sokolniki.[3]

Organization of the Vilnyus OKB

8. The OKB was established in 1949-1950 with two research laboratories. The entire senior administrative and technical staff was transferred to the OKB from NII-17 in Moscow. A reorganization took place in 1953-1954 which resulted in the following set-up:



9. About 150 persons were employed by the OKB. According to plan, however, this number was to be increased to nearly 300. Except on rare occasions, work at the OKB was carried out in one shift. Key positions were held by **Russians only**, although persons of other nationalities were employed in research jobs.

10. Details of the various units of OKB were as follows:

a. Laboratory No. 1 worked on the construction of centimetrical computors (sic) and pulse generators. This, as well as other laboratories, was staffed by a number of research teams, each headed by a senior engineer. Each team was known by the name of that engineer. Thus, the teams of Laboratory No. 1 were

known as Zukerman, Kovbasyuk, Balalayev, Kovarskiy, Herman, and Bessonov. The team was assisted by a number of engineers and technicians. The director of the laboratory was the woman engineer, Tamara Petrovna Kudryavtseva. The laboratory employed about 30 workers, approximately 10 of whom were engineers. The laboratory was engaged in the development of measuring instruments in the order of 3 cm and 1.6 cm. In about mid-1957, the prototypes of 1.6 cm instruments were produced. During that time, work was still going on at the Design Bureau on their technical blueprints. In 1957 there was a collection of literature of the Zukerman laboratory on the technique of /developing instruments for/ 0.8 cm and Zukerman was theoretically ready to begin work. Instruments were believed to have been seen operating on 0.8 cm at NII-17 in 1956.

b. Laboratory No. 2 developed oscillographs and millimicrosecond techniques. There were three teams at the laboratory; the /M.Ts.?/ Stolov team and the two teams headed by the director of the laboratory, Gennadiy Makarovich Lifanov. The Stolov team was composed of 14 persons, seven of whom were engineers: /Viktor/ Levin, (fnu) Shatkus, (fnu) Stalinkevichus, (fnu) Karovina, (fnu) Rusin, (fnu) Yermolenko, and (fnu) Malakhov. Rusin and Yermolenko, however, were transferred to Laboratory No. 3 in 1957. Each of the other two teams had two engineers and a small number of technicians.

c. Laboratory No. 3 was also concerned with oscillographs and pulses. The laboratory employed a total of 20 persons, a small percentage of whom were engineers, and contained two teams. The director of the laboratory was (fnu) Ausin /Auzen?/. Rusin's team was engaged in the development of a special millimicrosecond generator. Yermolenko was also employed with this group. Ausin's team was engaged in the development of combined groups of pulse generators. The engineers (fnu) Goryev (or Gogyev) and Albert Kazhe were on this team.

d. Laboratory No. 4 worked on pulses, oscillographs, and transistors. (Fnu) Vikhov was the director of the laboratory, which employed 15 persons in two teams: one team headed by Vikhov and the other by an engineer whose given name was Appolinariy Antonovich [redacted] The 50X1-HUM laboratory was established in 1956. In 1957, the Vikhov team was engaged in the development of an oscillograph for the precise measurement of the pulse time interval and the team of Appolinariy Antonovich was working on the construction of square-wave pulse generator which operated on transistors. About mid-1957, a model of the generator was ready but it had not yet passed the approving commission.

e. The Experimental Laboratory produced the prototypes of all instruments developed by the laboratories and manufactured all kinds of parts required by the laboratories in their work. Until 1956, the Experimental Laboratory was headed by (fnu) Prokofyev. The laboratory employed about 25 persons and was equipped with the best machinery and precision tools for metal work. Galvanization and thermal treatment, zincography, oxygen welding, lathe work of pieces larger than 200 mm, and press work were done for the OKB by the departments of Factory 555.

f. The Design Bureau prepared the technical drawings of the instruments developed by the OKB. The office employed about 20 persons.

g. The Technological Team worked out technological data of instruments prior to their production on an industrial scale. The team included five persons, two of whom were engineers.

h. The Photographic Laboratory had at its disposal two cameras for photographing instruments, parts, etc. One person was employed there.

i. The Duplicating Department made India ink and sun-tracing copies (sic). It employed six persons.

j. The Information Bureau maintained a collection of foreign language periodicals, and textbooks and technical publications, etc., relating to various instruments. The office employed two persons, the director and a typist. Engineers with knowledge of foreign languages translated the material into Russian.

Security Measures at the OKB

11. Files containing complete specifications relating to development projects were forwarded from MAP to Department No. 1, which dealt with secret material and served both Factory 555 and the OKB. The head of the team to which the request for the development project was passed was then called to Department No. 1, where the relevant data was shown to him in a file. All details were worked on a separate page, on which the name of the team head also appeared. The team head was given a numbered copybook into which he was authorized to note down the required data. The book was then deposited in a personal strongbox with a single key, held by its owner. At the end of each workday, the box was transferred to Department No. 1 and was sealed with wax by its owner. The following morning, the box was removed from its place of safekeeping and the seal was inspected for damage.

12. After receiving the data, the team head began to plan the stages of research and the experiments required. The work was apportioned to his assistants, each of whom also registered specifications in a numbered copybook, which he kept in a personal strongbox. References to the development project could be noted only in this copybook. If certain data had to be typed, the copybook was handed to a typist at Department No. 1, who checked the presence of all pages then had the owner sign for each page. All drafts were destroyed after typing, and the typed material was returned to the originator. Upon completion of a development project, the engineers involved in the project returned all written and typed material to the archives of Department No. 1, for which they were given a receipt.

13. Every engineer with a security clearance for classified material was authorized to visit the archives of Department No. 1 and to study the designs filed there. During development of a project, however, only the persons directly concerned were permitted to see the material. If an engineer required any information on a subject under development at the OKB or another authority, he was obliged to submit an application to this effect through the OKB directorate.

14. Soviet research institutes applied the following four degrees of security classification:

a. Unclassified (ne sekretno). This material, which was filed in ordinary archives, could be taken out of the office and it could be published.

b. Secret (sekretno).

c. Most secret (sovershenno sekretno).

d. Of special value to the state (bolshoy gosudarstvennoy vazhnost).

The secret and most secret material was kept in Department No. 1 and its handling was permitted on the basis of the appropriate security clearance only. Recipients were obliged to safeguard the papers in their personal strongboxes. If the data were copied from the original document into a copybook, the classification of the document had to be indicated on each page. Nothing was known about the classification "Of special value to the state".

Working Procedure on a Development Project

15. Primary data received from a customer, whether from MAP or another authority, could be either accepted or rejected by the head of the team, who would inform the director of OKB of his decision. If he considered execution of the project impossible or rejected it for any other reason, the project was transferred to the head of another team. After giving his agreement, the head of the accepting

team worked out the theoretical and technical aspects of the project and submitted the results to the director of OKB. Subsequently, a committee from MAP would arrive to examine the project in the presence of the team head. After scrutiny by the committee, the head of the team would start construction of a model instrument (one unit). The model would then be examined by the MAP committee and, if necessary, modified. At this stage, the Experimental Laboratory would construct at least three, but not more than ten, complete prototypes of the instrument for the plant charged with its serial production. The model was subject to a state inspection (gos. ispitaniye) prior to its dispatch. The receiving plant could not in any way deviate from the original technical specifications of the model. If difficulties were encountered during industrial production of the instrument, engineers were sent to extend technical assistance. Commissions appearing at the OKB would assess the project according to one of the following four classifications:

a. Excellent (otlichno). This classification almost certainly qualified the engineer for a premium, and, if the instrument incorporated an especially large proportion of new components, for an award.

b. Good (khorosho).

c. Satisfactory (udovletvoritelno).

d. Unsatisfactory (neudovletvoritelno). This classification disqualified the project from execution and the engineer in charge from his premium. In some cases, the engineer was demoted.

16. A quarterly bonus was paid to a worker on the basis of an appropriate progress report by the laboratory director. Nearly every director was willing to make a good report since the matter could not easily be checked within the framework of a project. A bonus for development was also granted upon completion of a development project if the particular instrument met all technical and deadline requirements. The value of this bonus was considerable.

17. Most of the orders at the OKB were executed on behalf of the Air Force. Instruments intended for the military were not specially marked or numbered. There was no uniform deadline applied to the execution of development. Work at each laboratory was carried out simultaneously on two to four instruments. Work pressure was usually the greatest at Laboratory No. 2.

Publications

18. The following publications, classified secret, were distributed by MAP for purposes of technical information:

a. Ekspress-Informatsiya: A weekly publication which contained information on aircraft radar, electronics, and the activities of various research institutions in the USSR as well as important information in the field of electronics from abroad.

b. Byulleten (?): A weekly publication which dealt with approximately the same subjects as Ekspress-Informatsiya.

c. Electronics (unclassified): The translation of an American publication.

d. Sbornik: A monthly publication of the Armed Forces, classified secret, which contained publications of the work of the independent military research institutes.

Availability of Parts at Factory 555 and OKB

19. Acquisition of any new product was usually difficult. In 1954, difficulties were encountered in procuring a special cable with a resistance of 150 ohms whereas, in 1956, there was a surplus of these cables. Transistors were in short supply in 1956, but in 1957 they were more plentiful. MLT resistors

were also difficult to obtain in 1956. The Vilnyus OKB had to send a special representative to Moscow in 1957 to procure oscillator tubes; the diameter of this tube was seven centimeters and the length 25 centimeters. A staff member of the institution had to stay in Moscow a number of months each year to obtain such tubes from the producers.

MAP Order to Use Miniature Parts

20. As early as 1955, an order was issued by MAP to make maximum use of modern miniature parts. Miniature tubes with diameters of five millimeters and lengths of twenty millimeters were known to exist for all purposes and could be inserted into circuits by point welding. There also existed miniature switches (five by two centimeters), condensers, and hermetically-sealed electrolytes. The more an engineer utilized modern miniature parts, the more eligible he became for a citation by the various commissions. Though octal-base tubes were used, the tendency was to replace them with miniature tubes. Octal-base tubes were marked with the words Ne Perspektivniye Lampy to indicate that they were not to be used in instruments of modern design.

Soviet System of Nomenclature

21. Specific instruments were generally given names of objects, such as trees and minerals. Only instruments of universal application were designated by their initials, such as EO-1 and EK-1.

Oscillographs

22. During 1953-1956, the 100 mc oscillograph DSO-I (Dvukhluchevoy Skorostnoy Ostsillograf) was designed and developed at OKB. The instrument was originally classified secret, but was declassified in 1956. Development of the DSO-I was completed in July 1956, after which one of the instruments, with its technical documentation, was forwarded to a military research institute about 41 kilometers from Moscow.[4] The institute was located in a five-or six-story building, surrounded by a low brick wall in an open field. On the roof of the building was a radar antenna, and radar sets and various computing instruments (sic) with dark green panels were observed inside the building. A high-ranking officer in naval uniform was at the institute and had been seen before at the Vilnyus OKB. Nearby were two large circular brick structures, without windows, which were about three stories high and had a diameter of about 50 meters (sic). During the war, this institute had been transferred to Tashkent together with the Moscow /Electrical/ Engineering Institute for Communications to which it had been attached prior to and during the war. The institute became independent after the war.

23. A lecture on the DSO-I instrument was given at the Electronics Department (sic) of the Academy of Sciences in the spring of 1957. It was believed that production of the DSO-I was subsequently sent to a plant in Shcherbakov. Various instruments from /one of/ the Tesla Works in Czechoslovakia were taken to the OKB.

24. During 1956 and 1957, work was being carried out at the OKB on an oscillograph with a direct-current amplifier, a copy of Tetronic, operating from 0 to 30 mc.

25. In 1947, work was being carried out at Factory 555 /OKB?/ on the one-cathode electronic oscillograph EO-2 which operated from 10 c to 200 kc.

26. Also in 1947 the EO-3 and EO-4 oscillographs were developed at Factory 555 /OKB?/. The EO-3 oscillograph was somewhat different from the EO-2, but both instruments were of identical measurements. The EO-4 was a five-grid oscillograph copied from the Dummond /Dumont?/. The order was executed very quickly, in accordance with instructions from higher authority.

27. In late 1949, work was carried out at OKB on the EO-5 oscillograph, a universal type, 2 c to 200 kc.

28. The EO-6 oscillograph was developed in 1950 at OKB. This instrument also operated from 2 c to 200 kc, but contained two more tubes than the EO-5. It measured pulses as well.

29. The EO-7 was developed in 1951 at OKB. This was a copy of the EO-4, except the EO-7 had an additional tube and a range of 2 c to 100 kc.

30. Other research institutes were known to have developed electronic oscillographs EO-15 and EO-17.

31. Regarding the registration speed of high-velocity Soviet oscillographs, the indicators for oscillographs were marked "L.O" and the speed was checked by means of the following:

    a. The old DSO-I marker system with points.

    b. Points with quartz, showing the amplitude.

    c. A straight line of a gradient of three degrees, exact to 0.1 degree, for measuring by scale. The straight line was arrived at by means of ultralinear circuits, or by the Miller or Packlar systems.

    Soviet /high-speed?/ oscillographs had no amplifiers, with the exception of the DSO-1 oscillograph. Their speed, therefore, was faster: 0.05 /microsecond?/ for 10 cm. The speed of the DSO-I was from 0.025 to 0.03 /microsecond?/ for 1 cm. In about 1957, the OKB was reportedly ordered to construct a larger oscillograph of 200 mc, which could operate on 50 to 25,000 c.

32. Requests had been made for research into and development of instruments with the following frequencies:

    a. Below 0.8 cm.
    b. From 0.8 cm to 1.6 cm.
    c. From 1.6 cm to 3 cm.
    d. From 3 cm to 10 cm.
    e. From 10 cm to 50 cm.

    An article about instruments of 0.3 cm, 0.2 cm, and 0.1 cm appeared in one of the MAP publications, classified secret. Instruments of 10 cm were observed at the stores of Factory 555. Nothing was known of instruments in the 10-50 cm range.

Pulse Generator

33. Under development at OKB were pulse generators of 0.2 microseconds to 0.005 microseconds. A short-pulse generator was developed and designated GKI (Generator Korotkikh Impul'sov). It operated on 50 to 10,000 c, and produced video pulses only. Signals could be received on 3 cm when coupling it with a klystron and another oscillator tube.

34. In 1953, five months were spent in the development of a pulse generator intended as part of another instrument. This work was commissioned by the OKB in Moscow; only three models were requested. Immediately on completion of the order, representatives of the Moscow OKB, accompanied by soldiers, collected the generators. The pulse generator operated on either the continuity system or by stages (sic). The maximal pulse was 50 to 60 volts. There were standard resistances of 19, 50, 75, and 150 ohms. Stage A was 0.05 volts, Stage B was up to 0.5 volts, Stage C was up to 5 volts, and Stage D was up to 50 volts.

35. Computing instruments were under development at Laboratory No. 1 of OKB. Among other items, the work related to various pulse-type HF generators modulated sinusoidally on 3 cm and 1.6 cm.

Measuring Instruments Used on Aircraft

36. An order was reportedly placed with Laboratory No. 3 in 1957 for a small pulsed oscillograph for aircraft. The specifications for this oscillograph were as follows: size, 15 by 20 by 10 cm.; amplitude, 10 mm (?); pulse, 11 microseconds; small cathode; and rate from 50 to 10,000 c.

Television and Infrared Television

37. According to plan, Factory 555 [OKB?] should have begun working on television. As an avocation, a group of electronic engineers who belonged to the DOSAAF radio circles in Vilnyus built television sets from parts received by DOSAAF. They also engaged in experiments on reception of television broadcasts in various regions and under various topographical conditions. It was also alleged that the OKB would undertake development of infrared television.

Printed Circuits

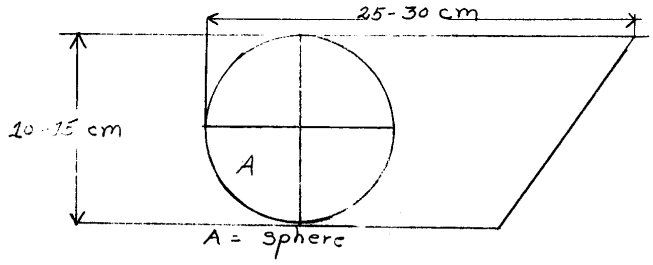
38. Experiments with printed circuits were started by Factory 555, although no use was made of them. Neither was this system employed at the OKB. Such a circuit was known to have been installed in the "Rekord" television set.

Tubes with More than Two Grids

39. No such tubes were known to have been produced [at Factory 555?]. Tubes with three grids were believed to be manufactured for television at the Svetlana Works.[5] The NII-17 in Moscow reportedly used these tubes for radar to obtain more detail and greater accuracy. The diameter of this tube was 17 inches.

Soviet IFF and DM Equipment

40. Nothing was known of airborne equipment except the existence of an IFF set referred to as the Svoy Chuzhoy. No work was done in the laboratories on either the IFF or on DM equipment. Neither was anything known on infrared altimeters or [equipment for] radio navigation. Regarding radio antennas on aircraft, one closed antenna was observed on a work bench at Laboratory No. 1. Its entire body consisted of some white metal. Nothing was observed inside the antenna and it was not known on which part of the aircraft it was supposed to be mounted or for what purpose. The antenna appeared as follows:



Magnetic Sound Recorder

41. In 1957, an order was placed by NII-17 for a magnetic sound recorder. The instrument consisted of two parts. One part incorporated a recorder for registering frequencies of 0.1 Hz 2 (sic), which was combined with an analyzer to receive ground pictures. The other part was intended to register signals and to transmit them with great speed.

Ratio of Signals to Noise

42. Methods of improving the ratio of signals to noise included the use of special tubes, which were manufactured at various research institutes, as well as cascade amplifiers (by coupling two triodes, one of which was grounded) and special resistors to reduce noise (MLT resistors, with which all instruments for the military were equipped).

High-Powered Magnetrons

43. Either Laboratory No. 1 or 3 worked on magnetrons but they were for 3 cm only.

Transistors

44. There were transistors for high and low frequencies. The transistors were capable of operating 25°C above prevailing /equipment?/ temperatures. Milliwatt power transistors, marked PP-1 (ПП -1) and PP-2 (ПП -2), were known to exist, as was a four-terminal transistor, designated PNP (РНР).

Development of Very Fine Glass-Plated Filament

45. At high temperatures, a specially /glass?/ insulated filament, designated M.T.S.S.L., was used. Its use was mandatory in all military instruments until 1956, at which time it was replaced by a filament incorporating plastics.

Antijamming Device

46. An antijamming device was designed with five vacuum tubes for incorporation into a transmitter. It was capable of operating on HF and NHF (sic), but it was not known whether it could operate on UHF. Transmissions could be received without interference from jamming stations or other acoustic disturbances as long as the operational principle was not detected.

Instrument for Blind Landing

47. At the request of NII-17, work was undertaken on an instrument for blind landing, which operated on a completely new principle, not the Doppler principle. The instrument was to be mounted on the aircraft with a special antenna arrangement; it was to provide altitude measurement with an accuracy of 25 cm. The closer the aircraft was to the ground, the more exact were the measurements. The pictures produced by the instrument were to be transferred to the PPI or any other cathode tube on the instrument panel. After a series of experiments with the instrument, however, it was discontinued as being impracticable. As far as was known, the project was not resumed.

48. An instrument operating on the principle of the double /Doppler?/ modulated FM Radar was utilized by the Soviet Air Force. 50X1-HUM

Ultrasonic Radio Locator

49. A small radio locator operating ultrasonically was designed at the OKB and demonstrated at the Cancer Research Institute on ulitsa Meshchanskaya in Moscow.[6] The instrument was described in the Soviet publication Radiotekhnika of April 1959.

Sinusoidal Condenser

50. A sinusoidal condenser used in servo systems was designed at OKB and subsequently declassified. A Russian-language pamphlet describing this instrument (Teoriya i Raschet Sinusoidalnogo Kondensatora) by M. Ts. Stolov, Apt. 10, 43 Basanavichus ulitsa, Vilnyus, 50X1-HUM

Neutron Velocity Meter

51. Though only theoretical work was carried out and extensive experiments would be required, it was believed possible that an instrument capable of measuring individual velocities of neutrons moving at various speeds could be designed. The units in question were thermal neutrons (sic).

Electrolytic Condensers, Possibly of Tantalum

52. In 1956, condensers of this type were seen, but it was not certain that they were made of tantalum. They were a bluish color, were rectangular in shape, and were intended for use in a small oscillograph.

Other Instruments Developed at OKB

53. Other instruments developed at OKB were:

a. Electronic commutator - EK-1, two-directional.

b. Cathode voltmeter - marked VK-2 (BK-2), a copy of the universal R.C.A.

c. Sound generator - from 20 c to (?) kc; a copy of the Packard with three condensers.

d. Various computing instruments for radar, on 3 cm and 1.6 cm. During the first years of the existence of the OKB, American instruments were copied. Independent development was begun in 1957, but the patterns were based on Western ones.

Personalities

54. The following persons were known:

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a. Appolinariy Antonovich (surname unknown) was an engineer at Laboratory No. 4

b. Algin, Sergey Pavlovich, was director of the Design Bureau at the Vilnyus OKB;

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c. Ausin [Auzen?] (fnu), director of Laboratory No. 3 since 1956

d. Balalayev (fnu), an engineer at Laboratory No. 1

e. Belousov (fnu) was director of a laboratory at NII-20.

f. Bessonov (fnu), an employee at Laboratory No. 1

g. Chepryakov (fnu), deputy director for economic affairs at the OKB

h. Yermolenko (fnu) had been employed at Laboratory No. 3 since early 1957

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i. Firon (fnu) was an inspector at Factory 555 on behalf of MAP.

j. Gordon (fnu) was a specialist on transistors at NII-17. He lectured at the Vilnyus OKB a number of times.

k. Goryev (or Gogyev) (fnu) was an engineer at Laboratory No. 3; 50X1-HUM

l. Herman /German?/ (fnu), a physicist at Laboratory No. 1

m. Karovina /Korovina?/ (fnu) was an engineer at Laboratory No 2

n. Kazhe, Albert, an engineer at Laboratory No. 3 since 1952

o. Kovarskiy (fnu), an engineer at Laboratory No. 1

p. Kovbasyuk (fnu), an engineer at Laboratory No. 1

q. Kudryavtseva, Tamara Petrovna, head of Laboratory No. 1

r. Levin, /Viktor/, an engineer at Laboratory No. 2

s. Lifanov, Gennadiy Makarovich, had been director of Laboratory No. 2 since 1954

t. Lvov (fnu), a leading designer at the Design Bureau of OKB

u. Malakhov (fnu), a technician at Laboratory No. 2

v. Romanova (fnu), an engineer at the Design Bureau of OKB since 1952.

w. Rusin (fnu), an engineer at Laboratory No. 3 since early 1957

x. Shatkus (fnu), an employee at Laboratory No. 2

y. Similov (fnu), chief engineer at the OKB since 1949

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z. Sokolik [Anatoliy Ioniasovich?] was a specialist on oscillographs and member of the Academy of Sciences in Moscow.

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aa. Stalinkevichus (fnu) was an engineer at Laboratory No. 2.

bb. Stekolnikov [Ilya Samuilovich], was a specialist on high-velocity oscillographs and a member of the Academy of Sciences in Moscow.

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cc. Teterev (fnu), was an electronics engineer at the Novosibirsk branch of NII-17.

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dd. Uftyuzhaninov, Ivan Petrovich,[7] director of the Vilnyus OKB since 1949.

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ee. Vikhov (fnu), director of Laboratory No. 4

bb. Zukerman (fnu), an employee at Laboratory No. 1

1. Comment: In December 1957 the Ministry of the Aircraft Industry became the State Committee of Aviation Technology.

2. Comment: paragraph 7 states that NII-20 was subordinate in 1949 to the Ministry of Defense. Available information indicates that NII-20 was transferred in 1955 from the Ministry of Defense to the Ministry of the Radio Technical Industry which, in 1957, became the State Committee of Radio Electronics. No information is available on its subordination to MAP.

3. Comment: NII-20 is located at 22 Bolshaya Pochtovaya ulitsa.

4. Comment: The name of this institute was believed to have begun with the letters "Me" or "Mi". It could possibly have been "Melnikov".

5. Comment: Probably Electron Tube Factory No. 211.

6. Comment: Probably the Institute of Experimental Pathology and Therapy of Cancer of the Academy of Medical Sciences, USSR, located at 3-ya Meshchanskaya ulitsa 61/2.

7. Comment: Possibly Vladimir Petrovich Uftyuzhaninov, Stalin prize winner in 1950.

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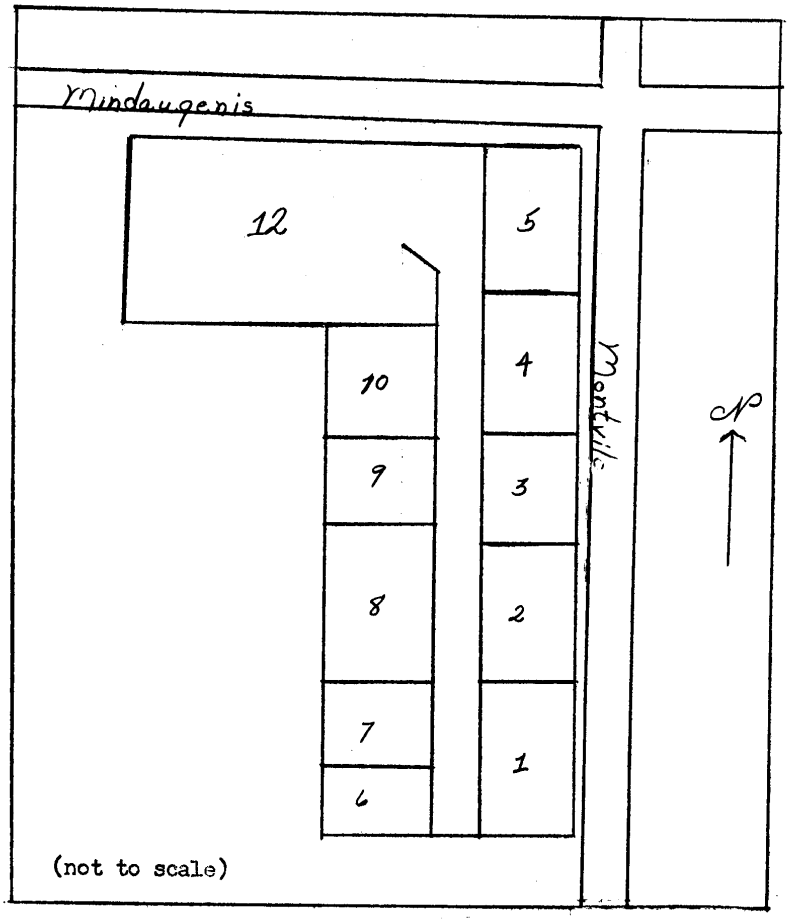

Legend

1. Laboratory No. 1
2. Laboratory No. 3
3. Information Bureau
4. Laboratory No. 2
5. Laboratory No. 4
6. Lavatories
7. Photographic Laboratory
8. Design Bureau
9. Duplicating Department
10. Office of the Director of OKB
11. Corridor
12. Wing occupied by Plant 555

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SKETCH (not very exact) OF THIRD FLOOR OF THE WING FACING ULITSA MONTVILO

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